

manner of breeding of hermaphrodite mollusca. As yet, we know little or nothing of the physiology of reproduction under these peculiar conditions, and I submit that most important physiological and zoological facts are contained therein, bearing on the whole question of evolution. The subject may be said to be at our doors, and may be studied with the greatest ease by anyone who gives it a careful attention. I have written this paper in the hope of drawing other observers into this most inviting and interesting field.

Shells collected during the Chevert Expedition, with Descriptions of the New Species, by J. BRAZIER, C.M.Z.S.

FAMILY SCALARIDÆ.

1.—SCALARIA REPLICATA.

Scalaria replicata, Sow. Jun., Proc. Zool. Soc., London, 1844, p. 11.
 „ „ Sowerby, Thes. Conch., vol. 1, p. 84, pl. 32, f. 23, 24.

Hab. Darnley Island, Torres Straits, 10 fathoms, sandy mud.

2.—SCALARIA PHILLIPPINARUM.

Scalaria Phillippinarum, Sowerby, Jun. Proc. Zool. Soc., London, 1844, p. 12.
 „ „ Thes. Conch., vol. 1, p. 85, pl. 32, f. 21, 22.

Hab. Darnley Island, Torres Straits, 10 fathoms, sandy mud. This species is also found in Port Jackson.

3.—SCALARIA IRREGULARIS.

Scalaria irregularis, Sowerby, Proc. Zool. Soc., London, 1844, p. 13.
 „ „ „ Thes. Conch., vol. 1, p. 90, pl. 33, f. 40, 60.

Hab. Bet Island, Torres Straits, 11 fathoms, coral and sand. Specimens also found on the beaches inside the reefs after gales.

4.—SCALARIA TENUI-COSTATA.

Scalaria tenui-costata, Sowb. Jun., in Sowerby Thes. Conch., vol. 1, p. 87, pl. 34, f. 76, not in Proc. Zool. Soc., London, 1844.

Hab. Bet Island, Torres Straits, 11 fathoms, coral and sand.

5.—SCALARIA RUBRO-LINEATA.

Scalaria rubro-lineata, Sowerby, Thes. Conch., vol. 1, p. 91, pl. 34, f. 83.

Hab. Darnley Island, Torres Straits, 20 fathoms, sandy mud.

6.—SCALARIA SUBNUDATA.

Scalaria delicatula, H. Adams, Proc. Zool. Soc., London, 1869, p. 274.

„ *subnudata*, Sowerby, Reeve, Conch. Icon., pl. 14, sp. 11.

Hab. Darnley Island, Torres Straits, 20, 30 fathoms, sandy mud.
Scalaria delicatula pre-occupied by Crosse, 1864.

7.—SCALARIA TURRICULA.

Scalaria turricula, Sowerby, Jun., Sowerby, Thes. Conch., vol. 1, p. 92, pl. 34, f. 88.

Hab. Princess Charlotte Bay, North-East Australia, 13 fathoms, sand; Bet Island, Torres Straits, 11 fathoms, coral and sand.

8.—SCALARIA CASTA.

Scalaria casta, A. Adams, Proc. Zool. Soc., London.

„ „ Sowerby, Reeve, Conch. Icon., pl. 11, sp. 86.

Hab. Darnley Island, Torres Straits, 20 fathoms, sandy mud.

9.—SCALARIA AURITA.

Scalaria aurita, Sowerby, Jun., Proc. Zool. Soc., London, 1844, p. 26.

„ „ „ Thes. Conch., vol. 1, p. 92, pl. 33, f. 62.

Hab. Darnley Island, Torres Straits, 20 fathoms, sandy mud.
One specimen found.

10.—SCALARIA ACULEATA.

Scalaria aculeata, Sowerby, Jun., Proc. Zool. Soc., 1844, p. 12.

” ” ” Thes. Conch., vol. 1, p. 86, pl. 32,
f. 36.

Hab. Darnley Island, Torres Straits, 20 fathoms, sand; Warrior Reef, west side, 8 fathoms, hard mud; Katow, New Guinea, 7 fathoms, sandy mud.

11.—SCALARIA MURICATA.

Scalaria muricata, Kiener, Iconog., Coq., pl. 4, f. 11.

” ” Sowerby, Thes. Conch., vol. 1, p. 86, pl. 32,
f. 31.

Hab. Cape Grenville, North-East Australia, 15 fathoms, sandy mud; Darnley Island, Torres Straits, 20, 30 fathoms; Katow, New Guinea, 7 fathoms.

Specimens not in very good condition.

12.—SCALARIA OBLIQUA.

Scalaria obliqua, Sowerby, Jun., Sowerby, Thes. Conch., vol. 1, p. 89., pl. 33, f. 69.

Hab. Bet Island, Torres Straits, 11 fathoms, coral and sand.

13.—SCALARIA DENTICULATA.

Scalaria denticulata, Sowerby, Thes., Conch., vol. 1, p. 87, pl. 32, f. 25, 26.

Hab. Darnley Island, Torres Straits, 15, 20 fathoms, sandy mud. Fourteen fine specimens of this species were found.

14.—SCALARIA HYALINA.

Scalaria hyalina, Sowerby, Jun., Proc. Zool. Soc., London, 1844, p. 11.

” ” ” Thes. Conch., vol. 1, p. 85, pl. 32,
f. 21, 22.

Hab. Darnley Island, Torres Straits, 30 fathoms, sandy mud; also Port Stephens and Port Jackson, New South Wales, 5, 10 fathoms, white sand bottom (Brazier).

15.—SCALARIA SP. ?

Hab. Darnley Island, Torres Straits, 20 fathoms. One specimen obtained very much sea-worn

16.—SCALARIA SP. ?

Hab. Cape Grenville, North-East Australia. Two specimens found dead, having all the varices worn off.

17.—SCALARIA VESTALIS.

Scalaria vestalis, Hinds, Proc. Zool. Soc., London, 1843, p. 125.

„ „ Sowerby, Thes. Conch., vol. 1, p. 93, pl. 34, f. 97.

Hab. Cape York, North Australia, 11 fathoms, sand and mud. One specimen was found of this beautiful species.

18.—SCALARIA CONCINNA.

Scalaria concinna, Sowerby, Jun., Proc. Zool. Soc., London, 1844, p. 28.

„ „ „ Thes. Conch., vol. 1, p. 97, pl. 33, f. 63.

Hab. Katow, New Guinea, 8 fathoms, sandy mud. Only one specimen was found of this pretty species.

19.—SCALARIA SP. ?

Hab. Cape Grenville, North-East Australia, 25 fathoms, sand. Specimen having the whole of the aperture, and two or three of the upper whorls broken; what remains of it resembles *Scalaria vulpina* (Hinds).

20.—SCALARIA, SP. ?

Hab. Darnley Island, Torres Straits, 30 fathoms, sandy mud. Small shell, very finely cancellated; somewhat seaworn. One specimen obtained, with the aperture broken.

21.—SCALARIA VARICOSA.

Scalaria varicosa, Lam. Anim. Sans Vert., tome 6, p. 227.

„ *fimbriata*, Lam. Encyclop., pl. 451, f. 4 a, b.

Scalaria varicosa, Sow. Thes. Conch., vol. 1, p. 103, pl. 35, f. 126, 128.

Hab. Darnley Island, Torres Straits, 30 fathoms, white sand. One fine living specimen was found.

FAMILY TEREBRIDÆ.

SUB-FAMILY TEREBRINÆ.

22.—ACUS MACULATUS.

Buccinum maculatum, Linn. Gmel., p. 3499, No. 130.

Terebra maculata, Lam. Anim. Sans Vert., tome 7, p. 283.

„ „ Sowerby, Thes. Conch., vol. 1, p. 150, pl. 42, f. 33.

„ „ Reeve, Conch. Icon., pl. 1, sp. 4.

Hab. Darnley Island, Torres Straits, found on the sands at low water.

23.—ACUS CHLORATUS.

Terebra chlorata, Lam., Anim. Sans Vert., tome 7, p. 288.

„ *Knorrii*, Gray, Proc. Zool. Soc., London, 1834, p. 59.

„ *chlorata*, Sowerby, Thes. Conch. vol. 1, p. 158, pl. 42, f. 29.

„ „ Reeve, Conch. Icon., pl. 3, sp. 11.

Hab. Darnley Island, Torres Straits, found on the sands.

24.—ACUS JUKESI.

Terebra Jukesi, Deshayes, French Journal de Conch., vol. 6, 1857, p. 95, pl. 5, f. 9.

Hab. Evans Bay, Cape York, North Australia, 6 fathoms, sand.

25.—ACUS (ABRETIA) TENERA.

Terebra tenera, Hinds, Proc. Zool. Soc., London, 1843, p. 158.

„ „ Sowerby, Thes. Conch., vol. 1, p. 184, pl. 45, f. 111.

Hab. Evans Bay, Cape York, North-East Australia, 6 fathoms, sand.

26.—HASTULA MARMORATA.

Terebra marmorata, Deshayes, Reeve, Conch. Icon., pl. 19, fig. 91 a, b.

Hab. Cape Grenville, North-East Australia, 20 fathoms, sandy mud; Sue Island, 11 fathoms, sand; Darnley Island, Torres Straits, 20, 30 fathoms.

27. HASTULA SPECTABILIS.

Terebra spectabilis, Hinds, Proc. Zool. Soc., London, 1843, p. 150.
 " " Sowerby, Thes. Conch., vol. 1, p. 157, pl. 44, f. 88.

" " Reeve, Conch. Icon., pl. 19, sp. 93 a, b.

Hab. Darnley Island, Torres Straits, 15 fathoms, white sand.

28.—TEREBRA STRAMINEA.

Terebra straminea, Gray, Proc., Zool. Soc., 1834, p. 62.
 " " Sowerby, Thes. Conch., vol. 1, p. 169, pl. 42, fig. 22, 23.
 " " Reeve, Conch., Icon., pl. 12, sp. 47a, 47b.

Hab. Princess Charlotte Bay, North-East Australia, 14 fathoms, rough sand bottom, one specimen found; Cape Grenville, North-East Australia, 20 fathoms, sandy mud bottom, one specimen found. This is the variety figured by Reeve, 47b. *Terebra acuta* and *circinata* (Deshayes) are quite distinct both in colour, sculpture, and markings. Reeve is wrong in making them and *straminea* one species.

29.—TERERRA OCULATA.

Terebra oculata, Lam. Anim. Sans Vert., tome 7, p. 286.
 " *levis*, Gray, Proc. Zool. Soc., London, 1834 p. 61.
 " *oculata*, Sowerby, Thes. Conch., vol. 1, p. 156, pl. 42, f. 31.
 " " Reeve, Conch. Icon., pl. 5, sp. 18.

Hab. Darnley Island, Torres Straits, found on the sands. One fine living specimen was obtained 9 inches long.

30.—TEREBRA COPULA.

- Terebra copula*, Hinds, Proc. Zool. Soc., 1843, p. 151.
 „ „ Sowerby, Thes. Conch., vol. 1, p. 157, pl. 44,
 f. 76.
 „ „ Reeve, Conch. Icon, pl. 19, sp. 92, a, b.
Hab. Hall Sound, New Guinea, on the sands at low water.

31.—TEREBRA (MYURELLA) UNDULATA.

- Terebra undulata*, Gray, Proc. Zool. Soc., London, 1834, p. 60.
 „ „ Sowerby, Thes. Conch., vol. 1, p. 172, pl. 43,
 f. 55.
 „ „ Reeve, Conch. Icon., pl. 18, fig. 84.
Hab. Darnley Island, Torres Straits, on the sands at the edge
 of low water.

32.—TEREBRA (MYURELLA) CÆLATA.

- Terebra cœlata*, Adams and Reeve, Moll. Voyage, Samarang,
 p. 30, pl. 10, f. 22.
 „ „ Reeve, Conch. Icon., pl. 15, sp. 64.
Hab. Darnley Island, Torres Straits, 20 fathoms, sandy mud
 bottom.

33.—TEREBRA (MYURELLA) CANCELLATA.

- Terebra cancellata*, Quoy and Gaimard, Voyage de l'Astrolabe,
 p. 471, pl. 36, f. 27, 28.
 „ „ Sowerby, Thes. Conch., vol. 1, p. 178, pl. 44,
 fig. 80.
Hab. Cape Grenville, North-East Australia, 20 fathoms, sandy
 mud.

34.—TEREBRA (MYURELLA) COLUMELLARIS.

- Terebra columellaris*, Hinds, Proc. Zool. Soc., London, 1843,
 p. 151.
 „ *areolata*, Adams and Reeve, Moll. Voy. Samarang,
 p. 30, pl. 10, fig. 23.
 „ *columellaris*, Sowerby, Thes. Conch., Vol. 1, p. 172, pl.
 44, f. 77.
 „ „ Reeve, Conch. Icon., pl. 22, sp. 113.
Hab. Darnley Island, Torres Straits, 15 fathoms, white sand
 bottom.

35.—TEREBRA (MYURELLA) VIOLASCENS.

- Terebra violascens*, Hinds, Proc. Zool. Soc. London, 1843, p. 154.
 „ „ Sow. Thes. Conch., vol. 1, p. 177, pl. 45,
 fig. 98.
 „ „ Reeve, Conch. Icon., pl. 24, sp. 125.
Hab. Katow, New Guinea, sandy mud and fine coral, 8 fathoms.
 One specimen was obtained of this fine shell.

FAMILY PYRAMIDELLIDÆ.

36.—PYRAMIDELLA AURIS-CATI.

- Voluta auris-cati*, Chem. Conch. fig. 1711, 1712.
Pyramidella plicata, Lam., Anim. Sans Vert., tome 6, p. 223.
 „ *auris-cati*, Sowerby, Thes. Conch., vol. 2, p. 812,
 pl. 172, f. 1, 2.
Hab. Darnley Island, Torres Straits. Specimen found on the
 reef.

37.—PYRAMIDELLA SUBULATA.

- Pyramidella subulata*, A. Adams, Proc. Zool. Soc. 1853, p. 177,
 pl. 20, fig. 6.
 „ „ Sowerby, Thes. Conch., vol. 2, p. 815,
 pl. 172, fig. 13.
Hab. Cape Grenville, North-East Australia, 15 fathoms, sand ;
 Darnley Island, Torres Straits, 20, 30 fathoms, sandy mud. Four
 specimens were found.

38.—PYRAMIDELLA GRACILIS.

- Pyramidella gracilis*, A. Adams, Proc. Zool. Soc., London, 1853,
 p. 178.
 „ „ Sowerby, Thes. Conch., vol. 2, p. 815, pl.
 172, fig. 14, 15.
Hab. Darnley Island, Torres Straits, 30 fathoms, sand. One
 specimen found.

39.—OBELISCUS TEREBELLOIDES.

- Obeliscus terebelloides*, A. Adams, Sowerby, Thes. Conch., vol. 2,
 p. 808, pl. 171, f. 18.

Pyramidella terebelloides, Reeve, Conch. Icon., pl. 1, sp. 8.

Hab. Darnley Island, Torres Straits, 20, 30 fathoms, sandy mud.

40.—OBELISCUS TESSELLATUS.

Obeliscus tessellatus, A. Adams, Sowerby, Thes. Conch., vol. 2, p. 808, pl. 171, f. 16.

Pyramidella tessellata, Reeve, Conch. Icon., pl. 1, sp. 4 a, b.

Hab. Darnley Island, Torres Straits, 20, 30 fathoms, sandy mud.

41.—OBELISCUS PULCHELLUS.

Obeliscus pulchellus, A. Adams, Sowerby, Thes. Conch., vol. 2, p. 808, pl. 171, fig. 20.

Pyramidella pulchella, Reeve, Conch. Icon., pl. 4, sp. 24.

Hab. Cape York, North Australia, 6, 12 fathoms, sand bottom.

42.—OBELISCUS ACLIS.

Obeliscus uclis, A. Adams, Sowerby, Thes. Conch., vol. 1, p. 811, pl. 171, fig. 30.

Pyramidella uclis, Reeve, Conch. Icon., pl. 4, sp. 25 a, b.

Hab.—Darnley Island, Torres Straits, 30 fathoms, sandy mud.

43.—TURBONILLA DARNLEYENSIS, N. SP.

Shell elongated, turreted, white, transparent, longitudinally ribbed, ribs smooth, interstices between the ribs minutely latticed with raised striæ; whorls 16, flattened, suture impressed, last whorl below the periphery smooth and shining, slightly convex, aperture round, columella thickened, slightly curved, peristome thick.

Length $3\frac{1}{2}$ lines, breadth $\frac{3}{4}$ line.

Hab. Darnley Island, Torres Straits, 30 fathoms, sandy mud bottom. Seven specimens were found of this species, only one perfect in the lot.

44.—TURBONILLA EXIMIA, N. SP.

Shell subulate, turreted, very thin, white, whorls 9, roundly convex, longitudinally prominently sharply ribbed, interstices smooth, suture deep, the last whorl in front crossed with trans-

verse lines, below smooth, aperture small, somewhat squarely ovate, columella straight, peristome thin, little produced in the centre.

Length 2 lines, breadth $\frac{1}{2}$ line.

Hab. Percy Island No. 2, North-East Australia, 18 fathoms, bottom of broken coral, rough sand, and stones.

45.—TURBONILLA, SP.?

Hab. Katow, New Guinea, 8 fathoms, mud bottom. Specimens very much seaworn and broken in the aperture.

46.—TURBONILLA, SP.?

Hab. Katow, New Guinea, 8 fathoms, mud bottom. One specimen was found, too much sea-worn for identification.

47.—TURBONILLA, SP.?

Hab. Darnley Island, Torres Straits, 20 fathoms, sandy mud. One sea-worn specimen found.

48.—TURBONILLA APLINI, N. SP.

Shell acutely elongated, thick, shining, white, spirally encircled with a pale yellowish broad band above the suture; longitudinally rather broadly ribbed, ribs 17 on the last whorl, interstices smooth, somewhat tabled at the suture, whorls 14-15 flattened, the last in front below the periphery smooth, columella minutely twisted, expanded below, aperture oblong ovate, outer lip nearly straight, thin, acute.

Length $3\frac{3}{4}$ lines, breadth $\frac{3}{4}$ line.

Hab. Katow, New Guinea, 8 fathoms, coral and mud bottom. Three specimens were obtained, but not in good condition.

49.—TURBONILLA CONFUSA, N. SP.

Shell elongated, somewhat cylindrical, thin, white, spirally encircled above the suture with a faint yellowish band (only seen with the lens), longitudinally ribbed, ribs 20 on the last whorl, narrow, rounded, interstices transversely latticed, whorls 9-11 flattened, the last in front spirally striated, convex, columella straight,

aperture ovate, peristome thin above, thickened in the middle, expanded and reflected below.

Length, 3 lines, breadth $\frac{3}{4}$ line.

Hab. Darnley Island, Torres Straits, 20 fathoms, sandy mud.

50.—ODOSTOMIA, SP. ?

Hab. Darnley Island, Torres Straits, 20 fathoms, sand. Two specimens found sea-worn and broken in the aperture.

51.—ODOSTOMIA, SP. ?

Hab. Darnley Island, Torres Straits, 20 fathoms, sand. One specimen found dead and sea-worn.

52.—ODOSTOMIA, SP. ?

Hab. Darnley Island, Torres Straits, 20 fathoms sand. One specimen found dead and worn.

53.—ODOSTOMIA CLARA, N. SP.

Shell ovately conical, thickened, transparent, shining, white, whorls 7, slightly convex, suture deep, last whorl somewhat angled, aperture ovate, produced anteriorly, columella plait, transverse and small, peristome thin, simple, interior of aperture studded with 8 narrow distinct raised lines running spirally inwards.

Length, 3 lines, breadth $1\frac{1}{4}$ line.

Hab. Darnley Island, Torres Straits, 20, 30 fathoms, rough sand.

54.—ODOSTOMIA AFFINIS, N. SP. ?

Shell acuminate ovate, solid, smooth, white, whorls 7, flat, angulate at the sutures, faint keel above, spire lengthened, aperture oblong ovate, slightly produced anteriorly, columella with small narrow acute spiral plait; peristome thin, acute, interior of aperture furnished with 10 faint raised lines of striæ.

Length $2\frac{1}{2}$ lines, breadth 1 line.

Hab. Cape York, North Australia, 11 fathoms, sandy mud bottom; Darnley Island, Torres Straits, 20, 30 fathoms, rough sand.

55.—*ODOSTOMIA COMPTA*, N. SP.

Shell elongate, very thin, smooth, transparent, white, whorls 8, slightly convex, last minutely keeled in the centre, angulate at the sutures, channelled, spire very much lengthened, aperture somewhat oblong, ovate, produced anteriorly, columella with strong thick transverse spiral plait, peristome thin, acute, interior of aperture near the edge granulated, furnished well down with 9 narrow, minute raised lines of striæ, interstices broad, minutely granulated.

Length $2\frac{1}{2}$, breadth 1 line.

Hab. Darnley Island, Torres Straits, 20, 30 fathoms, sandy bottom.

56.—*ODOSTOMIA POLITA*, N. SP.

Shell elongate, thick, smooth, white, shining, whorls $6\frac{1}{2}$, slightly convex, the last obsolete keeled in the centre and contiguous to the suture; convex below, suture channelled, spire more than half the whole length, aperture roundly ovate, columella with strong oblique spiral plait; excavated behind, peristome thin above, thickened below, interior of aperture furnished from the edge of lip with 7 narrow sharp-edged lines of striæ, half-way down the striæ in the interstices are finer and transparent.

Length 2 lines, breadth $\frac{3}{4}$ lines.

Hab. Darnley Island, Torres Straits, 20, 30 fathoms, sandy bottom.

57.—*ODOSTOMIA PARVULA*, N. SP.

Shell acuminately ovate, rather thin, smooth, whitish, whorls 6, rather flat, the last small below the periphery, convex, sutures channelled, spire long, aperture oblong ovate, produced anteriorly, columella fold transverse, rather thick in the centre, thin at the edge, peristome thin, acute, interior of the aperture furnished with 7 narrow lines of striæ, interstices rough.

Length $1\frac{3}{4}$, breadth $\frac{3}{4}$ line.

Hab. Darnley Island, Torres Straits.

58.—*SYRNOLA CINCTELLA*.

Syrnola cinctella, A. Ad. Ann. Mag. Nat. Hist., 1860, vol. 6, 3 series, p. 33.

Pyramidella cinctella, Sowerby, Reeve, Conch., pl. 6, sp. 45.

Hab. Darnley Island, Torres Straits, 30 fathoms, sandy mud.

59.—SYRNOLA PULCHRA, N. SP.

Shell acutely elongated, rather thin, smooth, whitish, whorls 11, flat, the last convex, suture deep, spirally encircled with a light yellowish brown narrow band just above the suture, last whorl with obsolete band of the same colour entering spirally into the interior; aperture ovate, peristome thin, columella plait rather prominent and twisted outwardly, interior of aperture furnished halfway down with 4 white prominent lines of striæ, the upper one thickest.

Length 3 lines, breadth $\frac{1}{2}$ line.

Hab. Darnley Island, Torres Straits, 30 fathoms, sandy mud; Cape York, North Australia, 11 fathoms, white sand.

Specimens from Cape York have only one band.

The ICHTHYOLOGY of the Chevert Expedition, by HAYNES GIBBES ALLEYNE, M.D., and WILLIAM MACLEAY, F.L.S.

During the voyage of the Chevert to New Guinea, no opportunity was lost by those on board of securing specimens of the fishes of the seas passed through. The result has been a collection of a most varied and interesting character, exceeding in point of number the collections made in those seas on any previous occasion.

It is our intention in this and succeeding Papers to give a list of these Fishes, with notes on their habits, localities, &c. The new species will be described and illustrated, and where previous descriptions have been imperfect, re-descriptions will be given of those previously named.

The labour attached to the task we have assigned ourselves is greater than will be generally believed, involving, as it does, the repeated examination of over a thousand fishes of all sizes, packed, some in bottles and some in large tanks, and with not a few very